**IT Applications Unit 3**

**Ch 1 Problem Solving**

**Information Systems, p 3-7**

The five components of an information system are essential to the operation and organisation of an organisation. These components are:

**Software**

**Hardware**

**Data** to be manipulated

**Personnel** to oversee the running of the system

**Procedures** to ensure the data is manipulated in an effective manner.

The purpose of an information system is to produce meaningful information which is taken from data, (raw, unorganised facts). It includes a group of components that work together.

The advantages of using an information system in a supermarket are that is it quicker and a lot easier for the staff to know the correct prices. The supermarket’s computer will keep a tally of how much stock is left in the store and is adjusted when every item is sold. This allows the owner of the supermarket to know when to order new stock. This information system adjusts items with GST. The prices of each item would then be produced. The supermarket can use a number of systems to determine different things in their shop e.g. stock, sales.

**Software**

Software is the detailed instructions the computer needs to be able to manipulate data into information.

The four main types of software are:

**Operation or system software:** controls the actual operations of the computer hardware. A computer system without the operating system would not be able to run applications. Some functions include starting the computer, executing and storing application programs ect. An example is windows vista.

A **device driver** is a small program that informs the operating system how to interact with the hardware correctly.

A **peripheral device** is any external device that is attached to a computer such as a scanner or printer.

**Application software:** provides support to computer users. It helps users perform tasks. Application software includes word processing programs (e.g. Microsoft word or Excel).

Off-the-shelf software is purchased from a shop. This means it is written for the mass market (e.g. Microsoft Office). Custom-made software is made for a specific purpose and features are specific to the users needs

The rights in terms of software being purchased are that you don’t own it and can’t give it to other people to use or install.

**Utility software:** is a specific program that is used to diagnose problems, check for viruses and scan and defragment disks.

**Programming software:** is a set of words (codes) that communicate instructions to a computer.

**Hardware:**

Hardware are components of the computer including mouse, the key board monitor. Without them the computer cannot function.

**Input devices:** allows a user to enter data into a computer. E.g. keyboard, mouse, scanners

**Output devices:** transmit and communicate information to users. E.g. printers, monitors, speakers.

**System unit:** consists of the CPU and memory. It is the ‘brain’ of the computer. It processes data and executes instructions.

RAM is random access memory which can be used by programs to perform necessary tasks and ROM is read only memory when it can be accessed read but information can’t be changed.

**Communication devices:** allow computers to communicate with other computers. E.g. modems and network interface cards.

**Data**

Data is entered into a computer as raw and unorganised. For data to become meaningful, it is processed or manipulated. Once the data has become meaningful it is then known as information.

**Personnel**

Personnel are also known as users. They are people that use the information system such as sellers of goods, customers, employees. Generally we think of users who put data in and receive reports.

**Procedures**

Procedures can be defined as series of steps that are followed so that tasks are preformed uniformly and consistently. Examples are backing up data, adding a new account for a customer.